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SUBJECT: TATA KZN - A STEEL PRODUCER THAT AIMS TO BE STAINLESS

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¶1. (U) Embassy Minerals and Energy Officer and Specialist, Consul General, and Consulate Pol/Econ Officer visited charge chrome manufacturer Tata Steel in Richards Bay, KwaZulu-Natal (KZN) on November 16. This cable is a collaboration between Embassy Pretoria and Consulate Durban.

¶2. (SBU) SUMMARY: Tata Steel KwaZulu-Natal (TSKZN) is a comparatively small, new producer of export charge chrome for use in stainless steel manufacture. Set up in Richards Bay by holding company Tata Steel to take advantage of cheap power and competitive freight rates, TSKZN brings in ferrochrome ore by rail from Mpumalanga and imports Ohio-sourced coking coal for its smelting process. The "niche" producer has been forced to find innovative ways of processing low quality ferrochrome, customizing its smelter and briquetting unwanted chrome dust, to remain competitive during the 2008-2009 global recession. The experienced management team demonstrates a very high level of commitment to reducing the facility's environmental footprint, assisting affected communities, and empowering women. Under the leadership of Somdeb Banerjee, the team provides a good example of local success in overcoming tough challenges. End Summary.

Tata Chooses Richards Bay for Cheap Power

¶3. (SBU) Tata Steel, the world's sixth largest steel producer, decided to establish the Tata Steel KwaZulu-Natal (TSKZN) charge chrome plant in 2000 to avoid the increasing cost of power at its Indian operations. At the time its power bills were 50 percent of its processing cost. The site at Richards Bay, South Africa's deepest port, was chosen for its cheap power and competitive freight rates. The company was formed in 2003 as a subsidiary of Tata Steel and Tata Africa Holdings and R850 million (\$114 million) was invested to establish the processing plant. The plant is in its second year of operation and is headed by Managing Director, Somdeb Banerjee, with a team of 136 employees. It produces and exports about 150,000 tons per annum of high quality charge chrome, a high carbon ferrochrome used in the production of stainless steel.

Key Ingredient in Stainless Steel

14. (SBU) Charge chrome is a key "ingredient" in stainless steel, making it rust resistant and adding shine and luster. Stainless steel is primarily a "lifestyle" product entering households as elegant cutlery, tableware and decorative items. Consumption for stainless steel has grown at around 4.5 percent over the last few years.

Ferrochrome to Charge Chrome

15. (SBU) TSKZN smelts ferrochrome ore to produce an export charge chrome product that is shipped to Asian and European customers from the Richards Bay port. The operation comprises a ferrochrome ore storage facility for two to three months' production, a briquetting plant, two DC-arc furnaces and a slag plant. The furnaces were commissioned in April and July 2008, respectively, and the first shipment of charge chrome to customers in China was made in September 2008. The furnaces smelt ferrochrome ore using coking coal ("coke", imported from Ohio Coal Mining in the U.S.) as a reductant and a small amount of quartzite as a flux. Smelting at 1600 degrees Celsius produces a charge chrome matte which is tapped, cast, and crushed to produce the charge chrome product for export; and a lighter alumina-silicate slag, which is cast, crushed, and stockpiled for use in road building. TSKZN is capable of processing lower grade ferrochrome ores than its competitors. The company purchases low grade, "lumpy" ore (from Nkomati Mine at Machadodorp in Mpumalanga), which it feeds directly into the furnaces, and "fines" (ferrochrome dust) which it forms into briquettes prior to smelting. The briquetting plant can process 400,000 tons of "fines" forming a furnace feed of 200mm briquettes using molasses and lime as a binder.

Green Chrome

16. (SBU) TSKZN expressed commitment to its environmental

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responsibilities and is active in reducing emissions, maintaining ground water quality, and striving for zero waste. TSKZN plans to reduce emissions, in line with Tata Steel's 2012 target, from 1.8 to 1.5 tons CO2 per ton of liquid steel. "We ensured that our environmental standards would meet the emission norms and air quality standards likely to be required in the next five years," says Banerjee. Fugitive emissions, the highly toxic gas that escapes the furnace when matte or slag is tapped, is extracted and filtered in a closed system. The filtrate is bagged and sent to a hazardous waste disposal site. Ground water quality and potential pollution plumes are monitored through a series of boreholes drilled at the perimeter of the operations. The company ensures that all of its plant water is either contained in lined storage facilities or kept in closed circuit. The most hazardous waste product in the plant water, "Chrome VI" (or hexavalent chrome, which is a highly toxic human carcinogen), is neutralized in the closed circuit through the addition of ferrous sulphate. According to Banerjee, the management team continuously looks for uses and recycling opportunities for the plant's waste products and aims to achieve zero waste generation. They are also active with a "greening project" aimed at suppressing dust and improving indigenous bio-diversity.

Challenges and Innovation

17. (SBU) Key challenges of the cost of power, input transport costs, recession-delayed return on investment (ROE), and attracting and retaining skills, particularly historically disadvantaged South Africans (HDSA) at management level, are forcing TSKZN to innovate for survival. Power accounts for about 30 percent of process costs with ferrochrome smelters being energy intensive. With impending 35 percent per annum for three years electricity rate hikes, the operations team is working on the cogeneration of power from emissions flares and the recycling of all process heat. They estimate that this will enable a 15 and 20 percent reduction in their power bill. The transport cost of ferrochrome ore from mines in the North West

and Mpumalanga is currently more than the price of the ore. To reduce these costs the operations team has started to process low quality ore and "fines" (chrome dust) from mines that are closer to Richards Bay. The team is looking at using locally produced anthracite as a substitute for U.S. coke, but as yet has not been able to replace this input. Proximity to the sea is an attraction and retainer for the highly skilled and management level employees, but the company has lost skilled employees to the Australian mining industry and to local competitors in the Middelberg area. Mentorship and a significant investment into the training of selected local candidates as artisans are key strategies employed by TSKZN to build its required skills base. Since 2006, TSKZN has trained 91 young men and women as operators and apprentices, some of whom are currently employed as trainees in the plant.

Good Vision, Resilient Team

¶18. (SBU) TSKZN appears to have good leadership in Banerjee, a highly competent and experienced operations management team, and a strong vision. Of its 136 employees, more than 50 percent are HDSA and 30 percent are female. TSKZN planned to facilitate voluntary HIV/AIDS testing in December 2009 and estimates the prevalence to be far lower than the region's 25 to 30 percent.

Community Conscience

¶19. (U) TSKZN is deeply involved with the community at Richards Bay, investing in education, skills development, and the empowerment of women. The company does not directly invest in HIV/AIDS, believing that other cooperatives in the area are better equipped to tackle this issue. The Embassy/Consulate team visited one of three schools that TSKZN had adopted and renovated in the area.

Comment

¶10. (SBU) TSKZN is an example of a "niche" ferrochrome producer that relies on innovation, highly experienced operations management, and good leadership to create value and compete with better placed, larger producers.

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¶11. (SBU) The timing of the TSKZN project was most unfortunate, with the first consignment of processed charge chrome being shipped at the start of the 2008-2009 global recession, seriously reducing payback on its \$114 million investment. This initial setback appears to have created a sense of urgency and "can do" positivism in the company's management team, stimulated a cost-conscious culture, and triggered excellent leadership.
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